Exhibit BB

Exhibit B-19

Invalidity of U.S. Patent No. 7,301,648 ("'648 Patent")¹ under Pre-AIA Section 102 or Section 103 in view of InterSense InterTrax ("InterTrax")² and InterTrax 2 ("InterTrax and InterTrax 2")³

InterTrax and InterTrax 2 were publicly available at least as of 1998. Plaintiffs assert a priority date of January 28, 2000 for the '648 Patent. Even assuming that the '648 Patent is entitled to this priority date, InterTrax and InterTrax 2 qualify as prior art under at least pre-AIA Sections 102(a) and (b) to the '648 Patent.

As described herein, the asserted claims of the '648 Patent are invalid (a) under one or more sections of 35 U.S.C. § 102 as anticipated expressly or inherently by InterTrax and InterTrax 2 (including the documents incorporated into InterTrax and InterTrax 2's by reference) and (b) under 35 U.S.C. § 103 as obvious in view of InterTrax and InterTrax 2 standing alone and, additionally, in combination with the knowledge of one of ordinary skill in the art, and/or other prior art, including but not limited to the prior art identified in Defendants' Invalidity Contentions and the prior art described in the claim charts attached in Exhibits B-1 – B-31. With respect to the proposed modifications to InterTrax and InterTrax 2, as of the priority date of the '648 Patent, such modification would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to one of ordinary skill in the

Discovery in this case is ongoing and, accordingly, this invalidity chart is not to be considered final. Defendants have conducted the invalidity analysis herein without having fully undergone claim construction and a *Markman* hearing. By charting the prior art against the claim(s) herein, Defendants are not admitting nor agreeing to Plaintiffs' interpretation of the claims at issue in this case. Additionally, these charts provide representative examples of portions of the charted references that disclose the indicated limitations under Plaintiffs' application of the claims; additional portions of these references other than the representative examples provided herein may also disclose the indicated limitation(s) and Defendants contend that the asserted claim(s) are invalid in light of the charted reference(s) as a whole. Defendants reserve the right to rely on additional citations or sources of evidence that also may be applicable, or that may become applicable in light of claim construction, changes in Plaintiffs' infringement contentions, and/or information obtained during discovery as the case progresses. Further, by submitting these invalidity contentions, Defendants do not waive and hereby expressly reserve their right to raise other invalidity defenses, including but not limited to defenses under Sections 101 and 112.

The claim limitations described herein were disclosed by InterSense InterTrax as of the earliest priority date of the '648 Patent. For example, InterSense introduced InterTrax in July 1998. InterSense Introduces the InterTraxTM Motion Tracker and Expects to Expand the Use of Virtual Environments, InterSense Press Release (July 20, 1998), https://web.archive.org/web/20010220153622/http://www.isense.com/news/pr/1998/expand.htm ("InterSense July 20, 1998 Press Release"); Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market, InterSense Press Release (July 13, 1999), https://web.archive.org/web/20010221161840/http://www.isense.com/news/pr/1999/sony.htm ("InterSense July 13, 1999 Press Release"); images and packaging for InterSense InterTrax ("InterTrax Packaging") (see Defendants corresponding production).

Defendants reserve the right to amend or supplement this claim chart at a later date, including after the Court's order construing disputed claim terms.

The claim limitations described herein were disclosed by InterSense InterTrax and InterTrax 2 as of the earliest priority date of the '648 Patent. For instance, provisional application no. 60/178,797 to which the '648 Patent claims priority, mentions InterTrax and InterTrax 2 ("The core of this implementation is an inertial head orientation module called InterTrax and InterTrax 2 (available from InterSense and designed for use with consumer HMDs such as the Sony Classtron and Olympus EyeTrek)."). See also https://web.archive.org/web/20030804224641/http://www.isense.com/products/pro/itrax2/itrax2.pdf ("InterTrax 2 Brochure").

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art, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led one of ordinary skill to modify or combine the prior art references.

All cross-references should be understood to include material that is cross-referenced within the cross-reference. Where a particular figure is cited, the citation should be understood to encompass the caption and description of the figure as well as any text relating to or describing the figure. Conversely, where particular text referring to a figure is cited, the citation should be understood to include the figure as well.

A. INDEPENDENT CLAIM 1

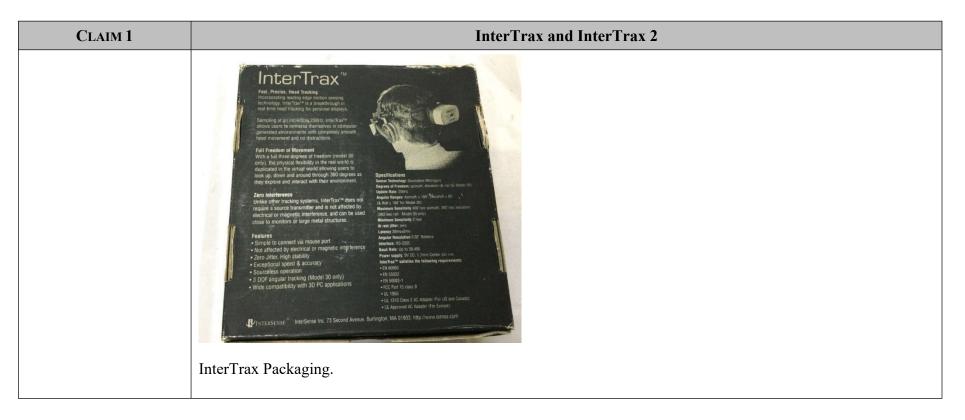
CLAIM 1	InterTrax and InterTrax 2
[1.pre] A method comprising:	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, a method.
	No party has yet asserted that the preamble is limiting, nor has the Court construed the preamble as limiting. However, to the extent that the preamble is limiting, it is disclosed by InterTrax and InterTrax 2.
	In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.
	See, e.g.:



CLAIM 1	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax TM Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
	InterSense July 20, 1998 Press Release.

CLAIM 1	InterTrax and InterTrax 2
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation. InterSense July 13, 1999 Press Release.

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CLAIM 1	InterTrax and InterTrax 2
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	InterTrax Packaging.
	See also Defendants' Invalidity Contentions for further discussion.
[1.a] mounting a sourceless orientation tracker on a user's head,	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, mounting a sourceless orientation tracker on a user's head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.
	See, e.g.:

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InterTrax and InterTrax 2 CLAIM 1 ■ Next generation of the ■ Simple connection to world's best-selling tracker all personal display devices INTERTRAX ■ Available with USB ■ Increased functionality and accuracy or Serial Interface ■ Compatible with Playstation2, ■ Priced for consumers, **Bringing 3-D To Life** PCs and workstations performance for professionals ■ Available standalone ■ USB middleware and SDK available or bundled with headsets The Smallest High Performance Head Tracker in the World www.isense.com InterTrax 2 Brochure. INTERTRAX² is available standalone or bundled with headsets INTERTRA

CLAIM 1	InterTrax and InterTrax 2	
	InterTrax 2 Brochure	
	INTERTRAX2	Specifications:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate Minimum Angular Rate	±720° yaw, pitch elevation, ±360° roll 3° per second
	Internal Update Rate Internal Latency Angular Resolution	256 Hz 4 milliseconds 0.02° relative
	O/S Compatibility H/W Compatibility	Win98/2000 PC, Workstations, Sony Playstation2™
	Interface Protocol	USB or Serial RS-232 Compliant with USB HID
	Size Weight	Electronics 9.4 x 2.7 x 2.7 cms Electronics 39 grams/1.4 ounces
	Cable Power	3 meters (series A USB cable) 5 volts via USB
	Power Requirements	350 mw
	Playstation2 is a trademark of So Specifications subject to change.	ny Computer Entertainment inc.
	InterTrax 2 Brochure	

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CLAIM 1	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax TM Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
	InterSense July 20, 1998 Press Release.
	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

CLAIM 1	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

CLAIM 1	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

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CLAIM 1	InterTrax and InterTrax 2
CLAIM 1	InterSense July 13, 1999 Press Release. Launched in July 1998, the InterTrax has already been widely adopted in such diverse application sectors as architecture, education, entertainment, interior design, marketing and research. InterSense sells its products to major corporations and leading research facilities worldwide. Its recently formed InterTrax business unit supplies affordable headsets and tracking systems to professional, entertainment, engineering and industrial markets through an international distribution network. With an increasing range of compatible software available, traditional users of CAD products can easily transition to real time visualization. InterSense July 13, 1999 Press Release.

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CLAIM 1	InterTrax and InterTrax 2	
	InterTrax Packaging. See Defendants' Invalidity Contentions for further discussion.	
[1.b] using a position tracker comprising a radiated energy detector to track a position of a first localized feature associated with a body part of the user other than the head relative to the user's head; and	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, using a position tracker comprising a radiated energy detector to track a position of a first localized feature associated with a body part of the user other than the head relative to the user's head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:	



CLAIM 1	InterTrax and InterTrax 2	
	InterTrax 2 Brochure	
	INTERTRAX2	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll
	Minimum Angular Rate	3° per second
	Internal Update Rate	256 Hz
	Internal Latency	4 milliseconds
	Angular Resolution	0.02° relative
	O/S Compatibility	Win98/2000
	H/W Compatibility	PC, Workstations, Sony Playstation2™
	Interface	USB or Serial RS-232
	Protocol	Compliant with USB HID
	Size	Electronics 9.4 x 2.7 x 2.7 cms
	Weight	Electronics 39 grams/1.4 ounces
	Cable	3 meters (series A USB cable)
	Power	5 volts via USB
	Power Requirements	350 mw
	Playstation2 is a trademark of So	ny Computer Entertainment Inc.
	Specifications subject to change.	
	InterTrax 2 Brochure	•

CLAIM 1	InterTrax and InterTrax 2
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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

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	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.	

CLAIM 1	InterTrax and InterTrax 2		
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	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.		

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CLAIM 1	InterTrax and InterTrax 2	
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	InterTrax Packaging. See Defendants' Invalidity Contentions for further discussion.	
[1.c] generating data representative of the tracked position.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, generating data representative of the tracked position. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:	



CLAIM 1	InterTrax and InterTrax 2		
	InterTrax 2 Brochure		
	INTERTRAX2	SPECIFICATIONS:	
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°	
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll	
	Minimum Angular Rate	3° per second	
	Internal Update Rate	256 Hz	
	Internal Latency	4 milliseconds	
	Angular Resolution	0.02° relative	
	O/S Compatibility	Win98/2000	
	H/W Compatibility	PC, Workstations, Sony Playstation2™	
	Interface	USB or Serial RS-232	
	Protocol	Compliant with USB HID	
	Size	Electronics 9.4 x 2.7 x 2.7 cms	
	Weight	Electronics 39 grams/1.4 ounces	
	Cable	3 meters (series A USB cable)	
	Power	5 volts via USB	
	Power Requirements	350 mw	
	Playstation2 is a trademark of So	ny Computer Entertainment Inc.	
	Specifications subject to change.		
	InterTrax 2 Brochure	•	

CLAIM 1	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax TM Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.	
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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
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CLAIM 1	InterTrax and InterTrax 2		
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	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.		

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CLAIM 1	InterTrax and InterTrax 2	
	InterTrax" Processes the second seco	
	InterTrax Packaging. See Defendants' Invalidity Contentions for further discussion.	
	See Defendants' Invalidity Contentions for further discussion.	

B. DEPENDENT CLAIM 2

CLAIM 2	InterTrax and InterTrax 2		
[2] The method of claim 1, further comprising mounting a virtual reality display on the user's head that contains one or more objects.	light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of		

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CLAIM 2	InterTrax and InterTrax 2		
	InterTrax 2 Brochure		
	INTERTRAX2	SPECIFICATIONS:	
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°	
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll	
	Minimum Angular Rate	3° per second	
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	Angular Resolution	0.02° relative	
	O/S Compatibility	Win98/2000	
	H/W Compatibility	PC, Workstations, Sony Playstation2™	
	Interface	USB or Serial RS-232	
	Protocol	Compliant with USB HID	
	Size	Electronics 9.4 x 2.7 x 2.7 cms	
	Weight	Electronics 39 grams/1.4 ounces	
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	Power	5 volts via USB	
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	Playstation2 is a trademark of So	ny Computer Entertainment Inc.	
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	InterTrax 2 Brochure		

CLAIM 2	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
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	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

CLAIM 2	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

CLAIM 2	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

Exhibit B-19

CLAIM 2	InterTrax and InterTrax 2
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	InterSense July 13, 1999 Press Release. InterInax InterInax Interina & Interina Sense and an assent an assent and an assent as as

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CLAIM 2	InterTrax and InterTrax 2
	InterTrax* Particular Land Land Land Land Land Land Land Land
	InterTrax Packaging.
	See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

C. DEPENDENT CLAIM 3

CLAIM 3	InterTrax and InterTrax 2
[3] The method of claim 2, further comprising using said tracked position to display in the virtual reality display an interaction of said body	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 2, further comprising using said tracked position to display in the virtual reality display an interaction of said body part with an object of said one or more objects. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:

Exhibit B-19

CLAIM 3 **InterTrax and InterTrax 2** part with an object of ■ Next generation of the ■ Simple connection to world's best-selling tracker all personal display devices said one or more objects. INTERTRA ■ Available with USB ■ Increased functionality and accuracy or Serial Interface ■ Compatible with Playstation2, ■ Priced for consumers, **Bringing 3-D To Life** PCs and workstations performance for professionals ■ Available standalone ■ USB middleware or bundled with headsets and SDK available The Smallest High Performance Head Tracker in the World www.isense.com InterTrax 2 Brochure. INTERTRAX² is available standalone or bundled INTERTRAX2 with headsets

Exhibit B-19

CLAIM 3	InterTrax and InterTrax 2	
	InterTrax 2 Brochure	
	INTERTRAX ²	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll
	Minimum Angular Rate	3° per second
	Internal Update Rate	256 Hz
	Internal Latency	4 milliseconds
	Angular Resolution	0.02° relative
	O/S Compatibility	Win98/2000
	H/W Compatibility	PC, Workstations, Sony Playstation2™
	Interface	USB or Serial RS-232
	Protocol	Compliant with USB HID
	Size	Electronics 9.4 x 2.7 x 2.7 cms
	Weight	Electronics 39 grams/1.4 ounces
	Cable	3 meters (series A USB cable)
	Power	5 volts via USB
	Power Requirements	350 mw
	Playstation2 is a trademark of So Specifications subject to change.	ny Computer Entertainment Inc.
	InterTrax 2 Brochure	

CLAIM 3	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
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	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

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	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

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Exhibit B-19

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	InterTrax Packaging.

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CLAIM 3	InterTrax and InterTrax 2
	InterTrax* Processing allowing the Interesting and Interestin
	InterTrax Packaging.
	See Disclosures with respect to Claim 2, supra; see also Defendants' Invalidity Contentions for further discussion.

D. DEPENDENT CLAIM 4

CLAIM 4	InterTrax and InterTrax 2
[4] The method of claim 3, wherein said interaction comprises virtual direct manipulation of said object by the user.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 3, wherein said interaction comprises virtual direct manipulation of said object by the user. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:



CLAIM 4	InterTrax and InterTrax 2	
	InterTrax 2 Brochure.	
	INTERTRAX ²	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate Minimum Angular Rate	±720° yaw, pitch elevation, ±360° roll 3° per second
	Internal Update Rate Internal Latency Angular Resolution	256 Hz 4 milliseconds 0.02° relative
	O/S Compatibility H/W Compatibility	Win98/2000 PC, Workstations, Sony Playstation2™
	Interface Protocol Size	USB or Serial RS-232 Compliant with USB HID Electronics 9.4 x 2.7 x 2.7 cms
	Weight Cable	Electronics 9.4 x 2.7 x 2.7 cms Electronics 39 grams/1.4 ounces 3 meters (series A USB cable)
	Power Requirements	5 volts via USB 350 mw
	Playstation2 is a trademark of Sor Specifications subject to change.	ty Computer Entertainment Inc.
	InterTrax 2 Brochure.	

CLAIM 4	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
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CLAIM 4	InterTrax and InterTrax 2
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	InterTrax Packaging. See Disclosures with respect to Claim 3, supra; see also Defendants' Invalidity Contentions for further discussion.

E. DEPENDENT CLAIM 5

CLAIM 5	InterTrax and InterTrax 2
[5] The method of claim 3, wherein said interaction comprises a scaled-world grab.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 3, wherein said interaction comprises a scaled-world grab. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 3, supra; see also Defendants' Invalidity Contentions for further discussion.

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F. DEPENDENT CLAIM 8

CLAIM 8	InterTrax and InterTrax 2
[8] The method of claim 3, wherein said object includes a second body part, and wherein displaying said interaction comprises displaying a relative position between said body part and said second body part.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 3, wherein said object includes a second body part, and wherein displaying said interaction comprises displaying a relative position between said body part and said second body part. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.: INTERTRAX Next generation of the world's best-selling tracker Increased functionality and accuracy Priced for consumers, performance for professionals Available with USB or Serial Interface Compatible with Playstation2, PCs and workstations USB middleware and SDK available
	InterTrax 2 Brochure.

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Exhibit B-19

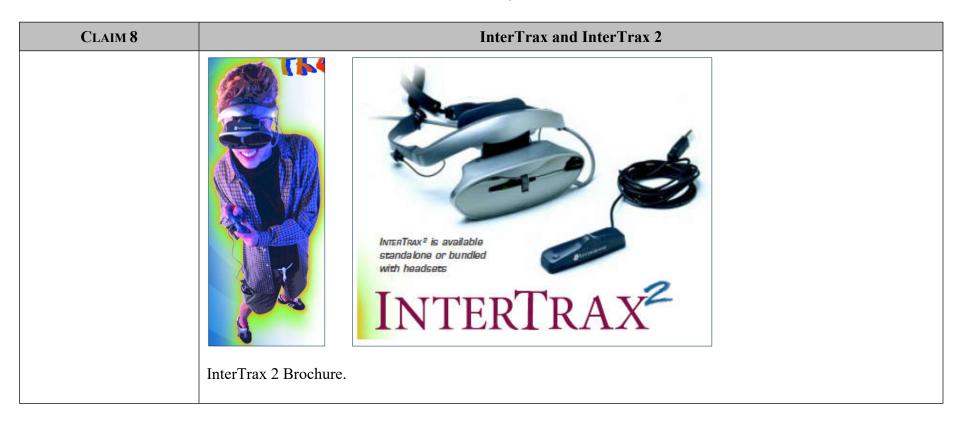


Exhibit B-19

CLAIM 8		InterTrax and InterTrax 2
	INTERTRAX2	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate Minimum Angular Rate	±720° yaw, pitch elevation, ±360° roll 3° per second
	Internal Update Rate Internal Latency	256 Hz 4 milliseconds 0.02° relative
	Angular Resolution O/S Compatibility H/W Compatibility	Win98/2000 PC, Workstations, Sony Playstation2™
	Interface Protocol	USB or Serial RS-232 Compliant with USB HID
	Size Weight	Electronics 9.4 x 2.7 x 2.7 cms Electronics 39 grams/1.4 ounces
	Cable Power	3 meters (series A USB cable) 5 volts via USB
	Power Requirements Playstation2 is a trademark of So	350 mw
	Specifications subject to change.	пу хотриев влаениттели т.с.
	InterTrax 2 Brochure	•

CLAIM 8	InterTrax and InterTrax 2
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CLAIM 8	InterTrax and InterTrax 2
	InterTrax* University of the second of the
	InterTrax Packaging.
	See Disclosures with respect to Claim 3, supra; see also Defendants' Invalidity Contentions for further discussion.

G. DEPENDENT CLAIM 9

CLAIM 9	InterTrax and InterTrax 2
[9] The method of claim 3, further comprising, in response to the user virtually grabbing an object displayed in the virtual reality display, moving the user toward	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 3, further comprising, in response to the user virtually grabbing an object displayed in the virtual reality display, moving the user toward the object in the virtual reality display. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 3, supra; see also Defendants' Invalidity Contentions for further discussion.

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CLAIM 9	InterTrax and InterTrax 2
the object in the virtual reality display.	

H. DEPENDENT CLAIM 10

CLAIM 10	InterTrax and InterTrax 2
[10] The method of claim 3, wherein the virtual reality display has a frame of reference and further comprising determining a change in position of the user's head and, in response to said change in position, changing the viewpoint of the virtual reality display relative to the frame of reference.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 3, wherein the virtual reality display has a frame of reference and further comprising determining a change in position of the user's head and, in response to said change in position, changing the viewpoint of the virtual reality display relative to the frame of reference. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 3, supra; see also Defendants' Invalidity Contentions for further discussion.

I. DEPENDENT CLAIM 11

CLAIM 11	InterTrax and InterTrax 2
[11] The method of claim 10, wherein determining a change in position comprises determining a change in the position of the user's	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 10, wherein determining a change in position comprises determining a change in the position of the user's head relative to said body part. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.

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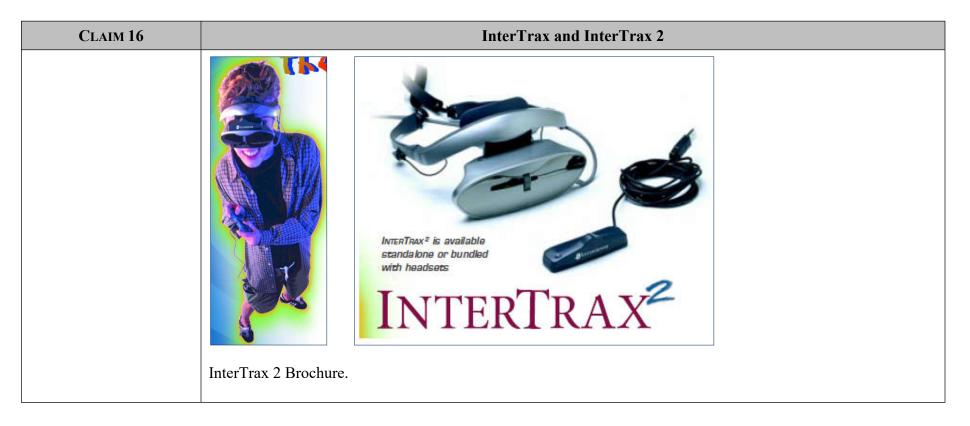
CLAIM 11	InterTrax and InterTrax 2
head relative to said body part.	See Disclosures with respect to Claim 10, supra; see also Defendants' Invalidity Contentions for further discussion.

J. DEPENDENT CLAIM 16

CLAIM 16 **InterTrax and InterTrax 2** [16] The method of At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or claim 1, further inherently, the method of claim 1, further comprising using signals obtained from said sourceless orientation tracker comprising using signals to compute a distance traveled by said user in a virtual reality environment, and generating data representative of obtained from said such distance. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other sourceless orientation references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. tracker to compute a See, e.g.: distance traveled by said user in a virtual reality ■ Next generation of the ■ Simple connection to environment; and world's best-selling tracker all personal display devices INTERTR generating data ■ Increased functionality ■ Available with USB representative of such and accuracy or Serial Interface Compatible with Playstation2, distance. ■ Priced for consumers, Bringing 3-D To Life performance for professionals PCs and workstations ■ Available standalone ■ USB middleware or bundled with headsets and SDK available The Smallest High Performano Head Tracker in the World www.isense.com InterTrax 2 Brochure.

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Exhibit B-19



	n, and Roll)
ngular Range Pitch ±8 Yaw ±1	
ngular Range Pitch ±8 Yaw ±1	
KUH ±3	180° 90°
	pitch elevation, ±360° roll
Angular Rate 3° per secon	
	ds
	e
Compatibility Win98/2000	
	tions, Sony Playstation2™
Interface USB or Seria	1 RS-232
Protocol Compliant v	with USB HID
Size Electronics 9	9.4 x 2.7 x 2.7 cms
	39 grams/1.4 ounces
Cable 3 meters (see	ries A USB cable)
	SB
Requirements 350 mw	
	rtainment Inc.
il c	Il Update Rate 256 Hz ernal Latency 4 millisecond lar Resolution 0.02° relative Compatibility Win98/2000 Compatibility PC, Workstal Interface USB or Serial Protocol Compliant w Size Electronics 9 Weight Electronics 3 The Cable Serial Seria

CLAIM 16	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
	InterSense July 20, 1998 Press Release.
	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

CLAIM 16	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

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CLAIM 16	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
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	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

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CLAIM 16	InterTrax and InterTrax 2
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	InterTrax Packaging.

Exhibit B-19

CLAIM 16	InterTrax and InterTrax 2
	InterTrax* Programme have consensus transmission to the formation to th
	InterTrax Packaging. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

K. DEPENDENT CLAIM 17

CLAIM 17	InterTrax and InterTrax 2
[17.a] The method of claim 1, further comprising:(a) providing a virtual reality display having a frame of reference;	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 1, further comprising providing a virtual reality display having a frame of reference. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

CLAIM 17	InterTrax and InterTrax 2
[17.b] (b) displaying in said virtual reality display an object associated with said body part;	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, displaying in said virtual reality display an object associated with said body part. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.
[17.c] (c) providing an input mechanism for receiving an input from said user;	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, providing an input mechanism for receiving an input from said user. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.
[17.d] (d) operating said virtual reality display in a first mode comprising, in response to a change in said tracked position, displaying a change in the apparent position of said object relative to said frame of reference; and	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, operating said virtual reality display in a first mode comprising, in response to a change in said tracked position, displaying a change in the apparent position of said object relative to said frame of reference. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.
[17.e] (e) in response to an input from said input device, operating said virtual reality display in a second mode, comprising in response to a change in said	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, in response to an input from said input device, operating said virtual reality display in a second mode, comprising in response to a change in said tracked position, displaying a constant apparent position of said object relative to said frame of reference. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.

Exhibit B-19

CLAIM 17	InterTrax and InterTrax 2
tracked position, displaying a constant apparent position of said object relative to said frame of reference.	See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

L. DEPENDENT CLAIM 18

CLAIM 18	InterTrax and InterTrax 2
[18] The method of claim 17 wherein, in said second mode, in response to a change in said tracked position, the viewpoint of said virtual reality display changes relative to said frame of reference.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 17 wherein, in said second mode, in response to a change in said tracked position, the viewpoint of said virtual reality display changes relative to said frame of reference. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 17, supra; see also Defendants' Invalidity Contentions for further discussion.

M. DEPENDENT CLAIM 20

CLAIM 20	InterTrax and InterTrax 2
[20] The method of claim 1, further comprising providing a head mounted display including a body stabilized information cockpit and displaying	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 1, further comprising providing a head mounted display including a body stabilized information cockpit and displaying data to a user using such display. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

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CLAIM 20	InterTrax and InterTrax 2
data to a user using such display.	

N. DEPENDENT CLAIM 21

CLAIM 21	InterTrax and InterTrax 2
[21] The method of claim 20, wherein said information cockpit comprises a clear windshield.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 20, wherein said information cockpit comprises a clear windshield. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 20, supra; see also Defendants' Invalidity Contentions for further discussion.

O. DEPENDENT CLAIM 22

CLAIM 22	InterTrax and InterTrax 2
[22] The method of claim 21, further comprising, in response to user selection of an object of the one or more objects, displaying an information display window in the head mounted display.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 21, further comprising, in response to user selection of an object of the one or more objects, displaying an information display window in the head mounted display. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 21, supra; see also Defendants' Invalidity Contentions for further discussion.

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P. DEPENDENT CLAIM 23

CLAIM 23	InterTrax and InterTrax 2
[23] The method of claim 22, wherein said information cockpit comprises a clear windshield and further comprising fixing said information display window to said clear windshield.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 22, wherein said information cockpit comprises a clear windshield and further comprising fixing said information display window to said clear windshield. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 22, supra; see also Defendants' Invalidity Contentions for further discussion.

Q. DEPENDENT CLAIM 24

CLAIM 24	InterTrax and InterTrax 2
[24] The method of claim 20, wherein said information cockpit comprises one or more objects.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 20, wherein said information cockpit comprises one or more objects. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 20, supra; see also Defendants' Invalidity Contentions for further discussion.

R. DEPENDENT CLAIM 25

CLAIM 25	InterTrax and InterTrax 2
[25] The method of claim 24, further comprising using said tracked position to determine that the user	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 24, further comprising using said tracked position to determine that the user has selected an object of the one or more objects. In the alternative, this element would be obvious over InterTrax and

Exhibit B-19

CLAIM 25	InterTrax and InterTrax 2
has selected an object of the one or more objects.	InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.
	See Disclosures with respect to Claim 24, supra; see also Defendants' Invalidity Contentions for further discussion.

S. DEPENDENT CLAIM 26

CLAIM 26	InterTrax and InterTrax 2
[26] The method of claim 24, further comprising modifying the appearance of an object of the one or more objects in response to a change in said tracked position.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 24, further comprising modifying the appearance of an object of the one or more objects in response to a change in said tracked position. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 24, supra; see also Defendants' Invalidity Contentions for further discussion.

T. DEPENDENT CLAIM 27

CLAIM 27	InterTrax and InterTrax 2
[27] The method of claim 26, wherein modifying the appearance of the object comprises changing the apparent distance of the object from the user in the display.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 26, wherein modifying the appearance of the object comprises changing the apparent distance of the object from the user in the display. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 26, supra; see also Defendants' Invalidity Contentions for further discussion.

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U. DEPENDENT CLAIM 28

CLAIM 28	InterTrax and InterTrax 2
[28] The method of claim 27, wherein the body part is the user's hand, and wherein the change in said tracked position results from the user virtually manipulating the object.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 27, wherein the body part is the user's hand, and wherein the change in said tracked position results from the user virtually manipulating the object. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 27, supra; see also Defendants' Invalidity Contentions for further discussion.

V. DEPENDENT CLAIM 29

CLAIM 29	InterTrax and InterTrax 2
[29] The method of claim 28, wherein said information cockpit includes a clear windshield and further comprising attaching said object to said windshield by virtually manipulating said object.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 28, wherein said information cockpit includes a clear windshield and further comprising attaching said object to said windshield by virtually manipulating said object. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 28, supra; see also Defendants' Invalidity Contentions for further discussion.

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W. DEPENDENT CLAIM 30

CLAIM 30	InterTrax and InterTrax 2	
[30] The method of claim 26, wherein said object is a cursor.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 26, wherein said object is a cursor. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 26, supra; see also Defendants' Invalidity Contentions for further discussion.	

X. DEPENDENT CLAIM 31

CLAIM 31	InterTrax and InterTrax 2
[31] The method of claim 30, wherein said change in said tracked position comprises a component in a plane, and wherein the appearance of the cursor is modified in response to said change by moving it a distance based on magnitude and direction of said planar component.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 30, wherein said change in said tracked position comprises a component in a plane, and wherein the appearance of the cursor is modified in response to said change by moving it a distance based on magnitude and direction of said planar component. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 30, supra; see also Defendants' Invalidity Contentions for further discussion.

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Y. DEPENDENT CLAIM 32

CLAIM 32	InterTrax and InterTrax 2	
[32] The method of claim 20, wherein said information cockpit comprises one or more virtual instruments.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 20, wherein said information cockpit comprises one or more virtual instruments. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 20, supra; see also Defendants' Invalidity Contentions for further discussion.	

Z. DEPENDENT CLAIM 35

CLAIM 35	InterTrax and InterTrax 2	
[35] The method of claim 20, further comprising providing in said display indicia of a route toward a destination.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 20, further comprising providing in said display indicia of a route toward a destination. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 20, supra; see also Defendants' Invalidity Contentions for further discussion.	

AA. DEPENDENT CLAIM 37

CLAIM 37	InterTrax and InterTrax 2
[37] The method of claim 20, further comprising detecting a predefined hand gesture of the user and, in response to said hand gesture, resetting the	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 20, further comprising detecting a predefined hand gesture of the user and, in response to said hand gesture, resetting the heading direction of said cockpit. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 20, supra; see also Defendants' Invalidity Contentions for further discussion.

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CLAIM 37	InterTrax and InterTrax 2
heading direction of said cockpit.	

BB. DEPENDENT CLAIM 38

CLAIM 38

[38] The method of claim 1, further comprising sequentially positioning said localized feature at a first and then a second location, using said position tracker to determine positions of said first and second locations, and computing a distance between said positions, and generating data representative of such distance.

InterTrax and InterTrax 2

At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 1, further comprising sequentially positioning said localized feature at a first and then a second location, using said position tracker to determine positions of said first and second locations, and computing a distance between said positions, and generating data representative of such distance. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.

See, e.g.:



InterTrax 2 Brochure.

■ Next generation of the ■ Simple connection to world's best-selling tracker all personal display devices Available with USB ■ Increased functionality and accuracy or Serial Interface ■ Priced for consumers, ■ Compatible with Playstation2, performance for professionals PCs and workstations ■ Available standalone ■ USB middleware or bundled with headsets and SDK available The Smallest High Performance Head Tracker in the World

www.isense.com

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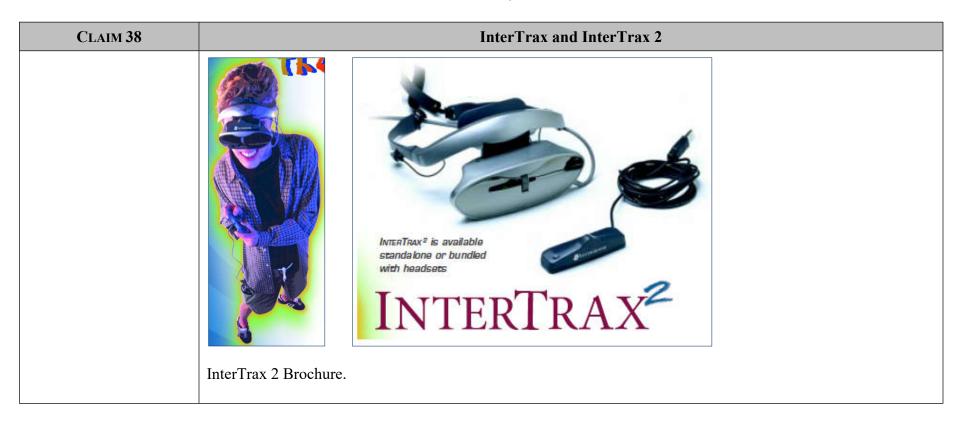


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CLAIM 38	InterTrax and InterTrax 2	
	INTERTRAX2	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate Minimum Angular Rate	±720° yaw, pitch elevation, ±360° roll 3° per second
	Internal Update Rate Internal Latency	256 Hz 4 milliseconds 0.02° relative
	Angular Resolution O/S Compatibility H/W Compatibility	Win98/2000 PC, Workstations, Sony Playstation2 TM
	Interface Protocol	USB or Serial RS-232 Compliant with USB HID
	Size Weight	Electronics 9.4 x 2.7 x 2.7 cms Electronics 39 grams/1.4 ounces
	Cable Power	3 meters (series A USB cable) 5 volts via USB
	Power Requirements Playstation2 is a trademark of So	350 mw
	Specifications subject to change.	ny Computer Emeritainment inc.
	InterTrax 2 Brochure.	•

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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

CLAIM 38	InterTrax and InterTrax 2
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	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

CLAIM 38	InterTrax and InterTrax 2
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CLAIM 38	InterTrax and InterTrax 2
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	InterTrax Packaging.

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CLAIM 38	InterTrax and InterTrax 2
	InterTrax* Programs those leaves Programs those l
	InterTrax Packaging.
	See Disclosures with respect to Claim 1, supra; see also Defendants' Invalidity Contentions for further discussion.

CC. INDEPENDENT CLAIM 40

CLAIM 40	InterTrax and InterTrax 2
[40.pre] A method comprising:	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, a method.
	No party has yet asserted that the preamble is limiting, nor has the Court construed the preamble as limiting. However, to the extent that the preamble is limiting, it is disclosed by InterTrax and InterTrax 2.
	In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references

Exhibit B-19

CLAIM 40	InterTrax and InterTrax 2
	disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.
	See, e.g.:
	■ Next generation of the world's best-selling tracker ■ Simple connection to all personal display devices
	INTERTRAX Increased functionality and accuracy Available with USB or Serial Interface
	Bringing 3-D To Life Priced for consumers, performance for professionals PCs and workstation2, PCs and workstations
	or bundled with headsets and SDK available
	INTERSENSE www.isense.com

CLAIM 40	InterTrax and InterTrax 2
	InterTrax 2 Brochure.

CLAIM 40	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer. InterSense July 20, 1998 Press Release.

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CLAIM 40	InterTrax and InterTrax 2	
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market	
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.	
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.	
	InterSense July 13, 1999 Press Release.	
	See also Defendants' Invalidity Contentions for further discussion.	
[40.a] mounting a first sourceless orientation tracker on a user's head;	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, mounting a first sourceless orientation tracker on a user's head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:	



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CLAIM 40	InterTrax and InterTrax 2	
	InterTrax 2 Brochure.	
	INTERTRAX2	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate Minimum Angular Rate	±720° yaw, pitch elevation, ±360° roll 3° per second 256 Hz
	Internal Update Rate Internal Latency Angular Resolution	4 milliseconds 0.02° relative
	O/S Compatibility H/W Compatibility	Win98/2000 PC, Workstations, Sony Playstation2™
	Interface Protocol Size	USB or Serial RS-232 Compliant with USB HID Electronics 9.4 x 2.7 x 2.7 cms
	Weight Cable	Electronics 39 grams/1.4 ounces 3 meters (series A USB cable)
	Power Requirements	5 volts via USB 350 mw
	Playstation2 is a trademark of So Specifications subject to change.	ny Computer Entertainment Inc.
	InterTrax 2 Brochure.	

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CLAIM 40	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
	InterSense July 20, 1998 Press Release.
	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

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CLAIM 40	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

CLAIM 40	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

Exhibit B-19

CLAIM 40	InterTrax and InterTrax 2
CLAIM 40	InterSense July 13, 1999 Press Release. Launched in July 1998, the InterTrax has already been widely adopted in such diverse application sectors as architecture, education, entertainment, interior design, marketing and research. InterSense sells its products to major corporations and leading research facilities worldwide. Its recently formed InterTrax business unit supplies affordable headsets and tracking systems to professional, entertainment, engineering and industrial markets through an international distribution network. With an increasing range of compatible software available, traditional users of CAD products can easily transition to real time visualization. InterSense July 13, 1999 Press Release.
	InterTrax Packaging.

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CLAIM 40	InterTrax and InterTrax 2
	InterTrax* InterTrax* Procured value have been been been been been been been be
	InterTrax Packaging.
	See Defendants' Invalidity Contentions for further discussion.
[40.b] mounting a second sourceless orientation tracker on a body part of the user other than the user's head; and	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, mounting a second sourceless orientation tracker on a body part of the user other than the user's head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:

Exhibit B-19



CLAIM 40		InterTrax and InterTrax 2
	InterTrax 2 Brochure	
	INTERTRAX ²	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll
	Minimum Angular Rate	3° per second
	Internal Update Rate	256 Hz
	Internal Latency	4 milliseconds
	Angular Resolution	0.02° relative
	O/S Compatibility	Win98/2000
	H/W Compatibility	PC, Workstations, Sony Playstation2™
	Interface	USB or Serial RS-232
	Protocol	Compliant with USB HID
	Size	Electronics 9.4 x 2.7 x 2.7 cms
	Weight	Electronics 39 grams/1.4 ounces
	Cable	3 meters (series A USB cable)
	Power	5 volts via USB
	Power Requirements	350 mw
	Playstation2 is a trademark of So	ny Computer Entertainment Inc.
	Specifications subject to change.	
	InterTrax 2 Brochure	

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CLAIM 40	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
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	InterSense July 20, 1998 Press Release.
	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

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CLAIM 40	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

CLAIM 40	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

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	InterTrax Packaging.

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CLAIM 40	InterTrax and InterTrax 2
	InterTrax Packaging. See Defendants' Invalidity Contentions for further discussion.
[40.c] utilizing angular rate and linear acceleration signals from said first and second trackers to derive a differential inertial signal representative of a motion of the body part relative to the head.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, utilizing angular rate and linear acceleration signals from said first and second trackers to derive a differential inertial signal representative of a motion of the body part relative to the head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:



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CLAIM 40		InterTrax and InterTrax 2
	InterTrax 2 Brochure	
	INTERTRAX ²	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
	Maximum Angular Rate	±720° yaw, pitch elevation, ±360° roll
	Minimum Angular Rate	3° per second
	Internal Update Rate	256 Hz
	Internal Latency	4 milliseconds
	Angular Resolution	0.02° relative
	O/S Compatibility	Win98/2000
	H/W Compatibility	PC, Workstations, Sony Playstation2™
	Interface	USB or Serial RS-232
	Protocol	Compliant with USB HID
	Size	Electronics 9.4 x 2.7 x 2.7 cms
	Weight	Electronics 39 grams/1.4 ounces
	Cable	3 meters (series A USB cable)
	Power	5 volts via USB
	Power Requirements	350 mw
	Playstation2 is a trademark of So	ny Computer Entertainment Inc.
	Specifications subject to change.	
	InterTrax 2 Brochure	

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CLAIM 40	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
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	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
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	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

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CLAIM 40	InterTrax and InterTrax 2
	InterTrax* Parameter Land Parameter
	InterTrax Packaging.
	See Defendants' Invalidity Contentions for further discussion.

DD. DEPENDENT CLAIM 41

CLAIM 41	InterTrax and InterTrax 2
[41] The method of claim 40, further comprising using signals from said first tracker to obtain a sourceless measurement of the	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 40, further comprising using signals from said first tracker to obtain a sourceless measurement of the orientation of the user's head. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See, e.g.:

Exhibit B-19

CLAIM 41 **InterTrax and InterTrax 2** orientation of the user's ■ Next generation of the ■ Simple connection to world's best-selling tracker all personal display devices INTERTRA head. ■ Available with USB ■ Increased functionality and accuracy or Serial Interface ■ Compatible with Playstation2, ■ Priced for consumers, **Bringing 3-D To Life** PCs and workstations performance for professionals ■ Available standalone ■ USB middleware or bundled with headsets and SDK available The Smallest High Performance Head Tracker in the World www.isense.com InterTrax 2 Brochure. INTERTRAX² is available standalone or bundled INTERTRAX2 with headsets

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CLAIM 41	InterTrax and InterTrax 2	
	InterTrax 2 Brochure	
	INTERTRAX ²	SPECIFICATIONS:
	Degrees of Freedom Angular Range	3 (Yaw, Pitch, and Roll) Pitch ±80° Yaw ±180° Roll ±90°
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	Internal Update Rate	256 Hz
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	Angular Resolution	0.02° relative
	O/S Compatibility	Win98/2000
	H/W Compatibility	PC, Workstations, Sony Playstation2™
	Interface	USB or Serial RS-232
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	InterTrax 2 Brochure	

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CLAIM 41	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

Exhibit B-19

CLAIM 41	InterTrax and InterTrax 2
CLAIM 41	InterSense July 13, 1999 Press Release. Launched in July 1998, the InterTrax has already been widely adopted in such diverse application sectors as architecture, education, entertainment, interior design, marketing and research. InterSense sells its products to major corporations and leading research facilities worldwide. Its recently formed InterTrax business unit supplies affordable headsets and tracking systems to professional, entertainment, engineering and industrial markets through an international distribution network. With an increasing range of compatible software available, traditional users of CAD products can easily transition to real time visualization. InterSense July 13, 1999 Press Release.
	InterTrax Packaging.

Exhibit B-19

CLAIM 41	InterTrax and InterTrax 2
	InterTrax InterTrax
	InterTrax Packaging.
	See Disclosures with respect to Claim 40, supra; see also Defendants' Invalidity Contentions for further discussion.

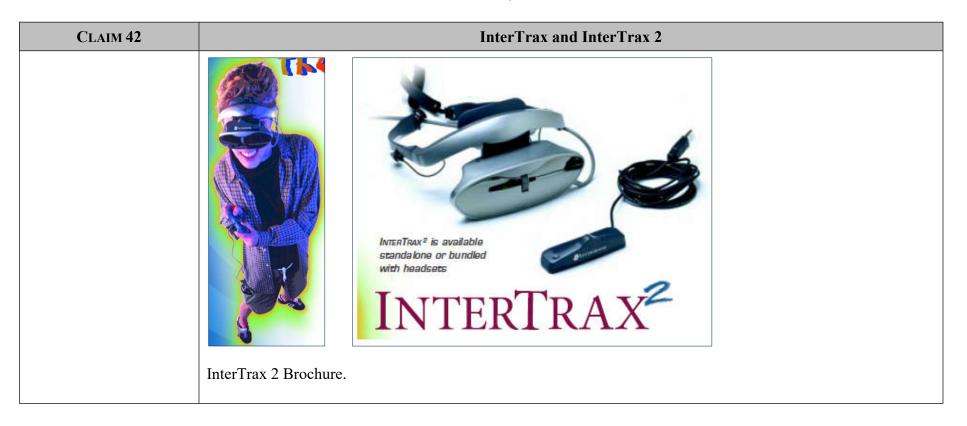
EE. DEPENDENT CLAIM 42

CLAIM 42	InterTrax and InterTrax 2
[42] The method of claim 41, further comprising using signals from said first and second trackers to track both the position and	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 41, further comprising using signals from said first and second trackers to track both the position and orientation of the body part. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art.

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CLAIM 42	InterTr	ax and InterTrax 2
orientation of the body part.	See, e.g.:	
P	INTERTRAX Bringing 3-D To Life InterTrax 2 Brochure.	 Next generation of the world's best-selling tracker Increased functionality and accuracy Priced for consumers, performance for professionals Available standalone or bundled with headsets Simple connection to all personal display devices Available with USB or Serial Interface Compatible with Playstation2, PCs and workstations USB middleware and SDK available

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Pitch, and Roll) ±80° ±180° ±90° aw, pitch elevation, ±360° roll econd econds lative
±80° ±180° ±90° aw, pitch elevation, ±360° roll econd
±80° ±180° ±90° aw, pitch elevation, ±360° roll econd
aw, pitch elevation, ±360° roll econds lative
econds lative
econds lative
lative
2000
kstations, Sony Playstation2™
Serial RS-232
ant with USB HID
tics 9.4 x 2.7 x 2.7 cms
tics 39 grams/1.4 ounces
s (series A USB cable)
ria USB
f
Entertainment Inc.

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CLAIM 42	InterTrax and InterTrax 2
	InterSense Introduces the InterTrax™ Motion Tracker and Expects to Expand the Use of Virtual Environments
	The InterTrax motion tracker will bring virtual environments to the professional and high-end consumer marketplace beginning with a virtual fitness trainer
	Orlando, FL –July 20, 1998 – InterSense (Booth #1317), the leading developer and supplier of motion-tracking systems for human interaction with virtual environments and 3D graphics, today introduced the InterTrax TM 20 and 30 precision motion trackers. Using InterSense's exclusive inertial tracking technology and algorithms, InterTrax relieves the jitter and complex set-up normally associated with virtual environments to create smooth, realistic 3D experiences that can easily be installed on any PC. A low price point and high performance make this tracker suitable for high-end consumers and professionals. Later this summer, InterTrax will be integrated with the Sony GlassTron TM and StairMaster FreeRunner TM to bring virtual environments to consumers in a virtual reality fitness trainer.
	InterSense July 20, 1998 Press Release.
	"InterSense has been recognized in the industry as the leading developer and manufacturer of motion-tracking technologies," said Charlie Miller, InterSense CEO. "With our flagship inertial and ultrasonic trackers, the IS-300 and IS-600, we were able to make virtual environments viable business solutions. Now, with our new line of motion trackers, the InterTrax 20 and 30, both at a lower price point, we can make the benefits of our sourceless inertial tracking technology available to an even broader professional and consumer market. With InterTrax, there is no disorienting slosh and jitter because it is based on InterSense's patented drift-corrected gyroscopic technology. With InterTrax, our goal at InterSense is to make virtual environments part of everyday life."
	InterSense July 20, 1998 Press Release.
	InterSense will take the first step in bringing virtual environments to the professional and consumer marketplace when InterTrax is incorporated with Sony's

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CLAIM 42	InterTrax and InterTrax 2
	GlassTron TM personal display and into StairMaster's FreeRunner TM to create the first widely deployed virtual environment physical fitness training system. Exercisers will be able to work out in complete freedom while enjoying a computer-generated environments for fun, fitness, or competition. Lunar landscapes and more earthly environments, such as the Boston Marathon, have already been created. Eventually, fitness centers will be able to network multiple machines in the same club or across the country via the Internet and challenge other athletes to "virtual" competitions. InterSense July 20, 1998 Press Release.
	More than any other motion tracker on the market, InterTrax offers high performance and ease of use, there is no source to set up and no configuration software required. The unit comes with an ergonomic curved adapter plate which attaches with Velcro onto the back of any head-mounted display. InterTrax plugs directly into a PC serial port without a separate electronics processing box, and has a single button conveniently accessible on the back for resetting the orientation at the start of a session. The tracker can be used in mouse emulation mode for instant compatibility with many 3D applications, or, for improved performance, can be used in native mode via a simplified protocol allowing for rapid integration by software developers. InterSense July 20, 1998 Press Release.

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CLAIM 42	InterTrax and InterTrax 2
	Currently available for shipping, InterTrax requires a single standard RS-232 connection and can be used across virtually all host platforms, including DOS, Windows 95/NT, Windows 98/NT, MAC, Sun, UNIX, and SGI. The tracker will work in mouse emulation mode with any type of serial mouse, including Logitech and Microsoft. Additionally, mouse emulation can be used without additional software under DOS and Windows. The InterTrax 20 is available for \$795 and the InterTrax 30 is available for \$995. For more information, customers can call InterSense at 1-888-359-8478. About InterSense InterSense's motion-tracking technology measures the 3D motion of a person's head, hands, and body while allowing unconstricted movement through a virtual world. Using inertial and ultrasonic tracking, InterSense's trackers relieve the lag and jitter normally associated with virtual environments. These changes aren't cosmetic, they are
	InterSense July 20, 1998 Press Release.
	Sony and InterSense Join Forces to Supply Tracked Personal Display Systems to the Real-Time 3D Computing Market
	Burlington, Mass July 13, 1999 - Sony Broadcast & Professional Europe has joined forces with InterSense Inc., the leading provider of precision motion tracking systems, to provide professional users of 3D graphics with the first affordable, high performance system for exploring and interacting with real-time computer generated environments.
	InterSense and its international distribution partners will supply the full range of Sony Glasstron LDI series personal display systems bundled with the InterTraxÔ inertial tracking system. The system provides an integrated solution that allows users to view and walk through standard 3D environments in real time. This bundled product offering is compatible with a wide range of 3D software toolkits and most 3D PC software. With prices ranging from \$1,750, it is also priced to appeal to a new generation of 3D software users who were previously unable to take advantage of the benefits of visual simulation.

Exhibit B-19

CLAIM 42	InterTrax and InterTrax 2
CLAIM 42	InterSense July 13, 1999 Press Release. Launched in July 1998, the InterTrax has already been widely adopted in such diverse application sectors as architecture, education, entertainment, interior design, marketing and research. InterSense sells its products to major corporations and leading research facilities worldwide. Its recently formed InterTrax business unit supplies affordable headsets and tracking systems to professional, entertainment, engineering and industrial markets through an international distribution network. With an increasing range of compatible software available, traditional users of CAD products can easily transition to real time visualization. InterSense July 13, 1999 Press Release.
	InterTrax Packaging.

Exhibit B-19

CLAIM 42	InterTrax and InterTrax 2
	InterTrax* InterTrax* InterTrax* InterInterior InterInterInterior InterInterior InterInterInterior InterInterInterInterInterInterInterInter
	InterTrax Packaging. See Disclosures with respect to Claim 41, supra; see also Defendants' Invalidity Contentions for further discussion.

FF.DEPENDENT CLAIM 43

CLAIM 43	InterTrax and InterTrax 2
[43] The method of claim 42, further comprising using relative range measurements between said head and said body part to correct drift in said tracking of the position and	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 42, further comprising using relative range measurements between said head and said body part to correct drift in said tracking of the position and orientation of the body part. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 42, supra; see also Defendants' Invalidity Contentions for further discussion.

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CLAIM 43	InterTrax and InterTrax 2
orientation of the body	
part.	

GG. DEPENDENT CLAIM 44

CLAIM 44	InterTrax and InterTrax 2
[44] The method of claim 43, further comprising providing signals to a haptic feedback device based on said tracked position or said tracked orientation.	At least under Plaintiffs' apparent infringement theory, InterTrax and InterTrax 2 discloses, either expressly or inherently, the method of claim 43, further comprising providing signals to a haptic feedback device based on said tracked position or said tracked orientation. In the alternative, this element would be obvious over InterTrax and InterTrax 2 in light of the other references disclosed in Defendants' Invalidity Contentions and/or the knowledge of one of ordinary skill in the art. See Disclosures with respect to Claim 43, supra; see also Defendants' Invalidity Contentions for further discussion.